WHAT IS CLAIMED IS:

1. Hydroelastic joint for assembling two pieces of a structure and for damping vibrations transmitted between each piece, said joint comprising an external reinforcement **1** and an internal reinforcement **3**, each reinforcement having a longitudinal axis, wherein the reinforcements are disposed one around the other and intended to be fixed respectively to one and to the other of said pieces to be assembled, and an assembly **5** forming a hydroelastic spring disposed between said reinforcements in order to permit a relative transverse displacement between said reinforcements, said assembly comprising a first elastically deformable element **6** shaped in order to delimit between said reinforcements at least one sealed volume **9** containing damping fluid **8**, a second elastically deformable element **24** being disposed between said assembly **5** and said internal reinforcement **3** forming a hydroelastic spring, characterised in that said second elastically deformable element **24** has a longitudinal dimension less than a corresponding longitudinal dimension of the first elastically deformable element **6**, in order to limit a transverse deformation of said first elastically deformable element **6** during a relative tilting of the longitudinal axes of said reinforcements about at least one transverse tilting axis **D**.

2. Hydroelastic joint according to claim 1, characterised in that it comprises an intermediate reinforcement **2** disposed between said first **6** and second **24** elastically

deformable elements, said first and second elastically deformable elements adhering on said intermediate reinforcement **2**.

3. Hydroelastic joint according to claim 2, characterised in that said first reinforcement **3** and the intermediate reinforcement **2** each have a respective peripheral bulge **42, 43** at the level of the surfaces **26, 25** in contact with said second elastically deformable element **24** in order to stress said second elastically deformable element with shearing stress between said peripheral bulges during said relative tilting of the axes of the external and internal reinforcements, the second elastically deformable element **24** also adhering on the first reinforcement.

4. Hydroelastic joint according to claim 1, 2 or 3 characterised in that the first elastically deformable element **6** has two end walls **13, 14** in order to define said sealed volume **9** between said end walls, said first elastically deformable element being provided with a peripheral reinforcement for rigidification **7, 20, 21** at least at the level of said end walls **13, 14** in order to receive a reinforcement **1** by fixing without adhesion in order to ensure impermeability of said volume of damping fluid.

5. Hydroelastic joint according to claim 4, characterised in that said end walls **13, 14** connect in a sealed manner the intermediate reinforcement **2** and said external reinforcement **1** in order to define said sealed volume **9** between the intermediate

reinforcement **2** and said external reinforcement **1**, said first elastically deformable element receiving by fixing without adhesion the intermediate reinforcement **2** and the external reinforcement **1**.

6. Hydroelastic joint according to claim 1, 2, 3 4 or 5, characterised in that said sealed volume **9** is divided into at least two opposite chambers **17a, 17b** according to a first transverse direction **B** defining a hydraulic damping direction of said assembly **5** forming a hydroelastic spring, said assembly comprising a means **16a, 16b, 19** for putting said chambers in communication in order to cause a hydraulic damping of said vibrations transmitted between said reinforcements at least according to said first transverse direction **B**.

7. Hydroelastic joint according to claim 6, characterised in that the first elastically deformable element **6** has two longitudinal bosses **15a, 15b** connecting said end walls **13, 14** in order to separate said two chambers **17a, 17b**, said means for putting the two chambers in communication comprising at least one valve lip **16a, 16b** fixed to at least one of said longitudinal bosses in order to come into contact with said intermediate reinforcement and said external reinforcement, said valve lip being able to be folded back in order to put said chambers in communication when a pressure difference between said chambers exceeds a threshold value.

8. Hydroelastic joint according to claim 6, characterised in that the first elastically deformable element has two limit stops **18a, 18b** projecting substantially at the centre of each chamber **17a, 17b** in order to limit a deflection between the external reinforcement **1** and the intermediate reinforcement **2** according to said first transverse direction **B**.

9. Hydroelastic joint according to claim 8, characterised in that said limit stops **18a, 18b** are pretensioned in transverse compression between the intermediate reinforcement and the external reinforcement.

10. Hydroelastic joint according to claim 1, 2, 3, 4, 5, 6, 7, 8 or 9, characterised in that said second elastically deformable element **24** has a rigidity which is less in at least one second transverse direction **H** in order to define, perpendicularly to said second transverse direction, a preferential transverse tilting axis **D** for said relative tilting of the axes of the external and internal reinforcements.

11. Hydroelastic joint according to claim 10, characterised in that said first transverse direction **B** and said second transverse direction **H** are parallel.

12. Hydroelastic joint according to claim 10, characterised in that said first transverse direction **B** and said second transverse direction **H** form an angle θ.

13. Hydroelastic joint according to one claim 10, 11 or 12, characterised in that said second elastically deformable element **24** has at least two cells **31, 32** which are substantially longitudinal and opposite in said second transverse direction **H**.

14. Hydroelastic joint according to claim 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 or 13, characterised in that said first **6** and second **24** elastically deformable elements are obtained in a single moulding step.

15. Hydroelastic joint according to one of the claim 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 or 14, characterised in that said internal reinforcement **3** is of an overall tubular shape and has a thickened or enlarged, or thickened and enlarged, wall section at the level of at least one of its longitudinal ends **34, 35** in order to provide an increased contact surface with the piece to which said internal reinforcement must be fixed or with a means for fixing said internal reinforcement to said piece.

16. Hydroelastic joint according to claim 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 or 15, characterised in that it has at least one external portion **30** which is able to abut on one of said pieces to be assembled in order to prevent a deformation of the joint beyond a prescribed amplitude limit.

17. Axle for an automotive vehicle comprising a beam **52** bearing symmetrically at each of its ends a respective wheel support, said beam being provided symmetrically with two joints **55a, 55b** in order to assemble said beam to a main structure of an automotive vehicle and to damp vibrations, characterised in that said joints are hydroelastic joints according to claim 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, or 16.

18. Axle according to claim 17, characterised in that said joints are fixed to said beam in order that a respective axis of each of said joints forms an angle α greater than 20° with a direction **Y** defined by the two wheel supports.